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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/685,381      | 10/16/2003  | Yuri Ton             | 26930               | 9767             |

7590 10/13/2004

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EXAMINER

GELLNER, JEFFREY L

ART UNIT PAPER NUMBER

3643

DATE MAILED: 10/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/685,381

Applicant(s)

TON ET AL.

Examiner

Jeffrey L. Gellner

Art Unit

3643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5, 6, 8-10, and 14-16 are rejected under 35 U.S.C. §102(b) as being anticipated by Hall III (US 4,015,366).

As to Claim 1, Hall III discloses a system for remote monitoring (abstract) of a field crop (col. 14 lines 50-55 with use of term “field”) comprising at least one sensor (col. 15 lines 34-42 and lines 61-63) positionable on a plant of the crop (in that sensor is capable of being placed on the crop) for collecting at least one plant derived parameter (in that nutrient concentration levels in the soil will be determined by withdrawal rate of the plant(s)); at least one user client (computer of Fig. 1) being for receiving and optionally processing the data for the at least one sensor to thereby determine a state of the crop; and a communication network (18 of Fig. 1) for communicating data from sensors to user client.

As to Claim 2, Hall III further discloses an additional sensor for soil moisture (col. 15 lines 34-43).

As to Claim 3, Hall III further discloses a sensor for CO<sub>2</sub> (col. 15 lines 34-43).

As to Claims 5, 6, and 8, Hall III further discloses the at least one sensor with a transmitter and receiver - satellite (inherent in use of “satellite” of col. 18 line 5).

As to Claim 9, Hall III further discloses the communication with wire and wireless communications (inherent in use of "satellite" of col. 18 line 5).

As to Claim 10, Hall III further discloses at least one sensor including a plurality of sensors (in that several would be in the field).

As to Claim 14, Hall III further discloses a computer (Fig. 1).

As to Claims 15 and 16, Hall III further discloses the at least one device in communication with the user client via a communication network (Fig. 1) and the at least one device being for modifying the state of the plant - irrigation (part 4 or abstract).

### ***Claim Rejections - 35 USC §103***

The following is a quotation of 35 U.S.C. §103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 and 7 are rejected under 35 U.S.C. §103(a) as being unpatentable over Hall III (US 4,015,366) in view of JP59-38655.

As to Claim 4, the limitations of Claim 1 are disclosed as described above. Hall III further discloses at least one additional environmental sensor - soil temperature detector (col. 15 lines 34-42) and plant mounted sensor (abstract). Not disclosed is one of the listed sensors as plant-mounted. JP59-38655, however, discloses a plant mounted CO<sub>2</sub> detector (Fig. 4 and abstract in English; plant mounted in that detector is mounted on "LF" in Fig. 4). It would have

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been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Hall III by adding a plant mounted CO<sub>2</sub> detector so as to ensure optimum plant growth.

As to Claim 7, the limitations of Claim 1 are disclosed as described above. Not disclosed is a data storage device on the sensor. Examiner takes official notice that it is old and notoriously well known in the sensor art to have a sensor with a data storage device. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Hall III by adding a data storage device to the sensor so as to store data before sending so as to increase efficiency of transmission.

Claims 11-13 are rejected under 35 U.S.C. §103(a) as being unpatentable over Hall III (US 4,015,366) in view of McNabb et al. (US 5,884,224).

As to Claim 11, the limitations of Claim 10 are disclosed as described above. Not disclosed is the system with a data concentrator. McNabb et al., however, discloses a system with a data concentrator (54 of Fig. 4). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Hall III by adding a data concentrator as disclosed by McNabb et al. so as to enhance efficiency of the system.

As to Claim 12, Hall III as modified by McNabb et al. further disclose the data concentrator and sensors having communication by wire or wireless (see Fig. 4).

As to Claim 13, Hall III as modified by McNabb et al. further disclose radiofrequency communication (col. 6 lines 1-6 of McNabb et al.).

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***Conclusion***

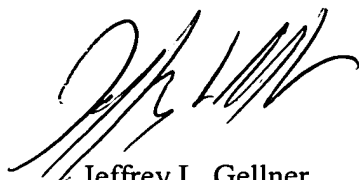
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cavanna et al. and Ton disclose in the prior art a system with a plant held sensor. Ton et al. disclose the parent application's patent.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Jeffrey L. Gellner whose phone number is 703.305.0053. The Examiner can normally be reached Monday through Thursday from 8:30 am to 4:00 pm. The Examiner can also be reached on alternate Fridays.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Peter Poon, can be reached at 703.308.2574. The official fax telephone number for the Technology Center where this application or proceeding is assigned is 703.872.9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.308.1113.



Jeffrey L. Gellner  
Primary Examiner